Appln. No.: To Be Assigned YAO-4316US1

<u>Amendments to the Claims:</u> This listing of claims will replace all prior versions, and listings, of claims in the application

Listing of Claims:

- 1. (Cancelled)
- 2. (Cancelled)
- (Cancelled)
- 4. (Cancelled).
- 5. (Cancelled)
- 6. (Cancelled)
- 7. (Cancelled)
- 8. (Cancelled)
- 10. (Cancelled)
- 11. (Cancelled)
- 12. (Cancelled)
- 13. (Cancelled)
- 14. (Original) A method for fabricating a semiconductor laser device comprising steps of:

forming a plurality of grooves in a surface of an InP layer;

thermally treating the InP layer in an atmosphere including at least a gas containing phosphorus and a gas containing arsenic in a mixed state, thereby forming a plurality of active regions made of InAsP in the plurality of grooves.

- 15. (Original) A method for fabricating a semiconductor laser device according to claim 14, wherein each of the grooves is formed in a triangle shape such that a bottom of the triangle is on a surface of the InP layer.
- 16. (Original) A method for fabricating a semiconductor laser device according to claim 14, wherein the InP layer is an uppermost layer of a multi-layered structure.
- 17. (Original) A method for fabricating a semiconductor laser device according to claim 16, further comprising a step of forming a light confinement layer adjacent to the InP layer, wherein the light confinement layer made of a semiconductor having a bandgap energy between the bandgap energy of a semiconductor constituting the active regions between the InP substrate and the InP layer and the bandgap energy of InP.

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18. (Original) A method for fabricating a semiconductor laser device according to claim 14, wherein the step of thermally treating the InP layer includes a step of intermittently providing a gas containing arsenic, thereby forming a plurality of active regions each having a well layer made of InAsP in the plurality of grooves.

- 19. (Original) A method for fabricating a semiconductor laser device according to claim 16, wherein the step of thermally treating the InP layer includes a step of intermittently providing a gas containing arsenic, thereby forming a plurality of active regions each having a well layer made of InAsP in the plurality of grooves.
- 20. (Original) A method for fabricating a semiconductor laser device according to claim 19, comprising a step of forming a light confinement layer adjacent to the InP layer, wherein the light confinement layer made of a semiconductor having a bandgap energy between the bandgap energy of a semiconductor constituting the active regions between the InP substrate and the InP layer and the bandgap energy of InP.
- 21. (Original) A method for fabricating a semiconductor laser device according to claim 17, wherein the light confinement layer is made of InGaAsP.
- 22. (Original) A method for fabricating a semiconductor laser device according to claim 19, wherein the light confinement layer is made of InGaAsP.
- 23. (Original) A method for fabricating a semiconductor laser device according to claim 13, wherein the plurality of grooves have a periodic pattern in a direction parallel to a resonator length direction.